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(54) Title: HIGH-STRENGTH $\alpha + \beta$ TYPE TITANIUM ALLOY TUBE AND PRODUCTION METHOD THEREFOR

(54) 発明の名称: 高強度 $\alpha + \beta$ 型チタン合金管およびその製造方法

(57) Abstract: A high-strength $\alpha + \beta$ type titanium alloy tube and a production method therefor, capable of fully making use of the lightweight, high-strength features of titanium alloy without requiring an extensive cutting work. The tube consists of a high-strength $\alpha + \beta$ type titanium alloy and has an outer diameter of at least 150 mm and a wall thickness of at least 6 mm, characterized in that the tube has one weld seam in a tube's lengthwise direction, and a ratio of a minimum wall thickness to a maximum wall thickness at portions excluding the weld is 0.95 to 0.99. A production method for the high-strength $\alpha + \beta$ type titanium alloy tube, wherein a high-strength $\alpha + \beta$ type titanium alloy plate having a thickness of at least 6 mm is cold-formed into a tubular form by a U-O method or press-bending method, and butting plate edges are welded together.

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ABSTRACT

5 The present invention provides a high strength $\alpha+\beta$
titanium alloy pipe not requiring a large amount of
cutting and enabling full use to be made of the features
of titanium alloy of light weight and high strength and a
method for production of the same. Specifically, a high
strength $\alpha+\beta$ titanium alloy pipe having an outside
10 diameter of at least 150 mm and a wall thickness of at
least 6 mm, the $\alpha+\beta$ titanium alloy pipe characterized by
having a welded seam running in the longitudinal
direction of pipe at one location and by having a ratio
of the minimum wall thickness to the maximum wall
15 thickness of the portions excluding the weld zone of 0.95
to 0.99. Also, a method of production of a high strength
 $\alpha+\beta$ titanium alloy pipe comprising cold forming a high
strength $\alpha+\beta$ titanium alloy plate of a wall thickness of
at least 6 mm into a tubular shape by the U-O method or
press-bending method and welding together the abutted
20 plate edges.

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